ANNUAL REPORT 2021-22

AYURVET RESEARCH FOUNDATION

INTEGRATION OF LIVESTOCK & AGRICULTURE FOR SUSTAINABLE DEVELOPMENT

ARF : ISO 9001 2015 CERTIFIED ORGANIZATION

National Accreditation Board for
Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

ARF TEST HOUSE

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

PANIPAT GOHANA ROAD, 28.5 KM, NH 71A, VILLAGE CHIDANA, TEHSIL GOHANA, SONIPAT, HARYANA, INDIA

in the field of

TESTING

Certificate Number: TC-10152

Issue Date: 21/12/2021 **Valid Until:** 20/12/2023

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : AYURVET RESEARCH FOUNDATION

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

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PROFILE

Name of the Organization	Ayurvet Research Foundation
Registered Office Address	4th Floor, Sagar Plaza, Distt. Center,Vikas Marg, Laxmi Nagar, Delhi–110092
Corporate Office Address	Unit No. 117, First Floor, KM Trade Tower, Plot No H-3, Sector 14, Kaushambi, Ghaziabad, U.P.- 201010
Field Office	Village-Chidana,Tehsil-Gohana,Distt-Sonepat, Haryana-123301
Phone Number	0120-7100201
Website	www.ayurvetresearchfoundation.com
Name & Designation of Chief Functionary	Mr. MJ Saxena Managing Trustee
Registration Details	
Trust Registration No.	21973
Principal Act and By Law by which organization is governed	Indian Trust Act, 1882
Act under which registered	"Deed of Trust" dated November 16, 2005, registered at New Delhi under the Registration Act 1908
FCRA No.	231661424
National CSR Hub Code	B/04/13/09/323
Income Tax	Section 12A
Income Tax Exemption	80G
Recognized by Department of Scientific & Industrial Research(DSIR)	Certificate No. F. No. 11/707/2016-TU-V
Auditors	Sandy Associates Chartered Accountants 104, Delhi Chamber, Delhi Gate, New Delhi-110002
Banks	ICICI Bank Canara Bank **Punjab National Bank**

Chairman's Message

I have immense pleasure in presenting ARF annual report for the year of 2022. It is the 14th consecutive year of its publication. I appreciate the efforts of team ARF for bringing out the CII-ITC Impact Assessment Study- 2021 on activities of ARF in the field of rural development, environmental sustainability, research extension and agriculture innovation.

Sustainability is an integral part of the objectives of Research Foundation, aimed for better quality agriculture produce and livestock health. ARF has worked towards the integration of livestock and sustainability for "One Health". Team ARF in collaboration with the Department of Biotechnology has been working on developing a product from the cow excreta of indigenous cow breed, so as to develop value added product from waste and help the farmers by increasing their farm income.

Our R&D Centre provided support to the farmers by testing soil, water, manure and animal feed, thereby helping the farmers in getting quality & safe produce.

The NABARD supported multilayer project successfully demonstrated the efficient utilization of land, water & simultaneous production of four crops towards improving to the farm income. The projects on Farmer Producer Organisations have moved the next stage towards demonstrative value creation through suitable integral of Agriculture and Livestock.

We will continue to do our best to earn the trust of our stakeholders by working diligently to address various issues of sustainability for value creation.

Best Wishes,

Yours sincerely

Pradip Burman

Managing Trustee's Message

I am happy to present the Annual report of Ayurvet Research Foundation for the year 21-22. We, as team ARF are continuously focusing on innovations, technology and taking the technology from lab to land for sustainable development and creating value for the stakeholders.

In an effort to help the farmers doubling their income, ARF in collaboration with NABARD undertook various development programme for the Farmer Producer Organizations in the areas related to Livestock and Agriculture. These initiatives helped in creation of value and generation of employment.

I wish to congratulate the entire team for successful completion of the task undertaken towards NABL accreditation of ARF Test House which would surely help the farmers and stakeholders.
ARF scientists publish their works in scientific journals and 27 papers were published during the year.

Our achievements inspire us to continue with our efforts to take the initiatives to next level towards achieving our objectives of sustainability and ONE HEALTH.

I wish to record my gratitude for all the collaborators especially Department of Biotechnology, NABARD, Ayurvet, members of ARF Research Advisory Committee, Trustees of ARF and other donors for their valuable support.

Best Regards,

MJ SAXENA
Managing Trustee

Board of Trustees

Mr. Pradip Burman, Chairman: An alumnus of the world-renowned MIT (Mechanical Engineering). Mr. Burman is the creator of the Trust. Mr. Burman has held several positions in Dabur India before joining the Board of Dabur in 1985. He is currently the Chairman of Dabur Nepal Pvt. Limited (a subsidiary of Dabur India Ltd.) and also serves as a promoter director on the Board of Aviva Life Insurance Co. Ltd. with many awards and honours in his name. He is also the Chairman of Ayurvet Limited and Mobius Foundation and has a passionate interest in social work and creative arts

Mr. Mohan Ji Saxena, Managing Trustee: A gold-medal winning Pharmacy post-graduate from the prestigious Banaras Hindu University. Mr. Saxena retired as Managing Director of Ayurvet Limited. He has an experience of more than 3 decades in service of Animal health and has spent the last 28 years with Ayurvet, serving as the head of R&D before assuming the position of MD, Ayurvet and Managing Trustee, ARF. He has published several papers in reputed Journals and has an unflinching commitment to food safety, Anti-Microbial Resistance, animal health, agriculture, quality improvement in medicinal plants and rural development.

Dr. Vibha Dhawan, Trustee: : Dr Dhawan is Director General of TERI. For more than three decades she has been actively involved in tree tissue culture and has developed the technique of in-vitro nodulation for the leguminous tree and has been instrumental in setting up of the modern tissue culture laboratory at the institute. She has a number of awards to her credit including: AIBA award in the category of Individual Scientist for the year 1998; Kamal Kumari Foundation award for science and technology for the year 1998; First Biotech Product & Process Development and Commercialization Award of the Department of Biotechnology for the year 2000.

Prof. AC Varshney, Trustee: Prof A. C. retired as Vice Chancellor Pt. Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwa Vidyalaya evam Go-Anusandhan Sansthan, Mathura (U.P.) in March 2016.Prior to that he held the position of Dean, College of Veterinary Sciences and Animal Husbandry, CAU, Aizawl, Mizoram and Dean, College of Veterinary and Animal Sciences, CSKHPKV, Palampur. Dr. Varshney has a brilliant academic record as a student as well as a teacher and scientist, and published 13 postgraduate theses and 160 research articles.

Research Advisory Board

1	**Dr. Kusumakar Sharma** Chairman-Research Advisory Board, Ayurvet Research Foundation (ARF), Former ADG-HRD, ICAR New Delhi	 Chairman
2	**Dr. T.P. Trivedi** Former Project Director and ADG, ICAR New Delhi	 Member
3	**Mr. Mohan Ji Saxena** Former Managing Director, Ayurvet Limited, Delhi. Managing Trustee, Ayurvet Research Foundation Director, Alternative Green Energy Solution Pvt. Ltd. Director, QCS Herbals Pvt. Ltd., Delhi	 Member
4	**Dr. Anup Kalra**, Director, Corporate Affairs, Ayurvet Ltd., Delhi Director, Alternative Green Energy Solution Pvt. Ltd.	 Member
5	**Prof. AC Varshney** (Ex Vice Chancellor, DUVASU, Mathura)	 Member
6	**Dr. Kuldeep Sharma** Former Director, Directorate of Publication and Information, ICAR, New Delhi.	 Member
7	**Dr. Deepti Rai** Principal Scientist Ayurvet Research Foundation	 Secretary

Key Highlights

Ayurvet Research Foundation (ARF), a Public Charitable Trust duly registered under the Indian Trust Act with its own state of the art DSIR approved R&D Centre. Since 2005, ARF has successfully carried out research and extension activities in the area of food safety, soil and water health, quality control of livestock production, health and nutrition management, better crop cultivation technologies, vermicomposting, trainings of youth and farmers, skill development and empowerment of women.

Key Activities

A. Agriculture Extension - Multilayer Farming Project:

Ayurvet Research Foundation with the support of NABARD had promoted Multilayer Farming model. ARF has set up 10 demonstration centres at villages of Muradnagar block of Ghaziabad. These were selected after proper baseline survey.

Ms. Asmita Lal (IAS), Chief Development Officer, Ghaziabad visited the Multilayer Farming demonstration fields along with the senior officials from Ghaziabad administration. They appreciated the work and the idea behind the project. They mentioned that this project has the potential to wean the water intensive Sugarcane farming and can be practiced in the rapid urbanisation scenario where the land holdings are declining..

B. Product Development for Value creation- DBT-Biorationals project:

In the year 2022, Ayurvet Research Foundation had received the project from Department of Biotechnology under the SUTRA- PIC program. The program focuses on upliftment of dry cows of indigenous breed. Through this project we shall promote their status by developing a product out of their dung. The management of cow dung and urine is very important for environmental health & their use in organic farming. This will help educate the farmers about usefulness of cows and their dung.

C. Skill Development - Micro Enterprise development Program (MEDP):

Under Micro Enterprise Development Program (MEDP) Project of NABARD, Ayurvet Research Foundation provided 15 days detailed training (From 16th Nov to 2nd Dec 2021) to 30 SHG Women in Organic Farming process and organic certification. Experts from IARI, Krishi Vigyan Kendra, Organic Certification Companies and other subject experts provided training on organic farming. After completion of training, these women were provided certificate and financial support.

D. Rural Development Projects:

In an effort to increase the income of farmers, ARF has implemented various programs. Farmers and milk producers of the districts Sonipat and Panipat were mobilized to create Farmer Producer Organizations (FPOs). They are trained on methodology and benefits of integrated farming, Organic farming, food processing, new technologies. We provided assistance in marketing their produce at different commercial platforms. Under organic farming and CAT programme farmers were given training in phased manner to replace the chemical fertilizers with vermicompost. Farmers were taken to different agricultural institutes in India to learn related technologies for easy adaptation and implementation in their fields.

E. ARF Institute of Entrepreneurship Development

To create livelihood opportunities in rural India, ARF has trained 25 rural youths in AI and dairy farming for three months. Under this programme, youths were trained in both theoretical and practical aspects. Post training, most of the youths have started earning their livelihood by providing healthcare and AI services in their own village.

F. Animal Health and Breed improvement programme:

In an effort to improve the breeds, ARF facilitated services of Artificial Insemination with semen of

high milk yielding Sahiwal and Murrah breeds. The team successfully undertook 1179 AIs with success rate of 55%. The team also organized 27 Animal Health camps and treated close to 600 cases of repeat breeding, mastitis, anestrus, indigestion etc, at the doorstep of farmers.

G. ARF Test House:

ARF Test House was successfully accredited by NABL. ARF Test House is the commercial arm of Ayurvet Research Foundation. In its first phase it will undertake testing of soil, water, animal feeds and herbs.

Governance

Ayurvet Research Foundation is governed by Board of Trustee(s) headed by Sh. Pradip Burman, Chairman. The research programme and extension activities conducted by the organization are regularly reviewed by Board to ensure fulfillment of its vision and implementation of objectives.

Our research programs were undertaken as per guidance from Research Advisory Committee headed by Dr. Kusumakar Sharma (Former ADG-HRD, ICAR).

Audits

Internal and statutory audits are conducted and submitted to Board of Trustees.

Regulatory Financial Compliance

Ayurvet Research Foundation is registered and Section 12A and 80G of Income Tax Act 1961, and adheres to all legal requirements.

1.0 Research and Development Centre

Ayurvet Research Foundation R&D Centre has been recognized as a SIRO (Scientific and Industrial Research Organization) by the Department of DSIR, Ministry of Science and Technology, to conduct research and provide solutions in the areas of food safety, antimicrobial resistance, animal health and nutrition, soil and water health, quality assurance of industrial and feed manufacturers raw materials and finished goods, quality improvement of medicinal plants, and so forth. To conduct research in these areas, the R&D Centre is well equipped with 51 modern instruments. We followed ISO 9001:2015 principles to enhance and streamline processes, for which we are certified.


KVQA

Certificate of Registration

(Quality Management System)

KVQA CERTIFICATION SERVICES PVT. LTD.

This is to certify that the Quality Management System of

AYURVET RESEARCH FOUNDATION

Panipat - Gohana Road NH-71A, Village: Chidana, Tehsil: Gohana, Distt. Sonepat- 131306, Haryana, India

Has been found to comply with the Quality Management System standard

ISO 9001:2015

This certificate is valid for the following areas of research and services as mentioned

Research on Food Safety, Animal Health and Nutrition, Soil and Water Health, Quality Improvement of Medicinal Plants, Hydroponics; Skill Development, Rural Development and Women Empowerment.

1st Surveillance Done On: 26/09/2020
2nd Surveillance Done On: 20/09/2021

Certificate No: KDACQ2019100227
Date of Issue: 24, October, 2019
Valid Until: 23, October, 2022*

Issued by

Authorised signatory KVQA

IAF

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CB-045-QMS

To Check the Status of the Certification kindly log on to www.kvqain
F-208, Sector - 63, Noida U.P. India. Ph- 011 -22711940, 22711941
Email : delhi@kvqaindia.com
*Subject to successful completion of surveillance audits

ISO 9001:2015 certification

1.1 Research projects for the industry/institutions:

ARF undertook various projects involving industry and related stakeholders to provide solutions in the area of animal feed, herbal raw material and soil health management with the objective to provide quality raw materials and safe food production.

1.1.1 Project title: To evaluate the presence of Aflatoxin Metabolites AFM1 in packaged and raw milk samples

Project Duration: 12 months (September 2021 – November 2021)

Objective: Detection and quantification of Aflatoxin Metabolites AFM1 in packaged and raw milk samples in the district of Sonipat and Panipat, using ELISA technique.

Milk is a highly nutritious food containing many essential nutrients such as high-quality proteins and fats that are essential for the growth development and maintenance of human health. In 2020, India consumed over million tons of cow milk worldwide. Apart from microbiological and insecticide contaminants, mycotoxins comprise an important but neglected food safety issue concerning to milk and dairy products. Aflatoxin M1 is one of hazardous contaminant in both pasteurized and raw milk. It is a hydroxylated metabolite of AFB1, that is excreted in milk in the mammary glands of both humans and lactating animals. When ruminants are fed with contaminated feed, the Aflatoxin B1 consumed by the animals is partly degraded by the forestomach before reaching the circulatory system. The remaining part is transformed by the liver into monohydroxy derivative forms mainly AFM1, and other metabolites such as aflatoxicol. It is well reported that AFB1 gets converted into AFM1 and excreted in milk, depending on factors such as the genetics of the animals, seasonal variation, the milking process and the environmental conditions. This project was taken up with the aim to detect and quantify aflatoxin Metabolites AFM1 in approximately 50 packaged and raw milk samples collected from the district of Sonipat and Panipat.

Quantification of Aflatoxin Metabolites AFM1 in milk samples using ELISA

Result: It was found that the milk samples were having AFM1 maximum up to 0.32ppb. Different regulatory bodies prescribe maximum permissible limit of AFM1 which varied globally. According to the FSSAI regulation and US FDA standard AFM1 in milk should be less than 500ppt whereas EU prescribed 50ppt.

1.1.2 Project Title: Awareness and assessment of Mastitis in Sonipat and Panipat District.

Objective:

1. To identify the causal microorganism for mastitis and its sensitivity against antibiotics
2. To create awareness about udder health and prevention of mastitis.

Project Duration: 12 months (April 2021 - March 2022)

Mastitis is the most dreaded disease for dairy farmers owing to its impact on milk production, increased treatment, labour and milk loss cost. A study was taken up for identification of the mastitis causing organisms in dairy animals and their sensitivity towards commonly used antibiotics. On recommendation of the veterinarians, around 78 milk samples of suspected cases were collected from 32 villages of district Sonipat and 86 samples from 28 villages of district Panipat. These samples were subjected to microbiological investigations to identify its causing organism and its susceptibility to various antibiotics.

Culture sensitivity test

Results: It was also found that maximum cases were due to the infection of S. aureus and E. coli. Apart from these, there were other causal organisms such as *Pseudomonas sp., Candida sp., Diplococci sp., and Bacillus sp.* Overall, it was found that usage of Enrofloxacin, Ciprofloxacin, Ceftriaxone/ Tazobactam, Cefoperozone/ sulbactam, Oxytetracycline, Neomycin, Chloramphenicol were more sensitive than rest of the antibiotics. The cure rate was close to 85%, which was appreciated by the veterinarians and farmers.

1.1.3 Project Title: Total Aflatoxin content in raw materials of cattle and poultry feed.

Objective:

To study the total aflatoxin raw material for assuring the quality feed in different districts of Haryana.

Project Duration: 12 months (April 2021- March 2022)

Aflatoxins are secondary metabolites produced by microscopic fungi which show toxic effects on human beings and animals. Mostly Aspergillus flavus and Aspergillus parasiticus are found in feed ingredients such as peanuts, maize, DORB, bajra etc. as a contaminant. The aim of the study was to examine the level of total aflatoxins present in the raw materials of feed to ensure the quality of feed and also quality of main raw materials used for manufacturing cattle feed and create awareness among the manufacturers about the importance of maintenance of quality.

Estimation of total aflatoxins

Results: Out of 50 samples, 74 % samples of various raw materials i.e., peanuts, maize, DORB, bajra etc. were found to be in compliance with BIS guidelines whereas 16% of Maize samples and 10 % of Soya samples were found not to comply. To avoid the adverse effect of the aflatoxin, it has been advised to the manufacturers, to store all raw material in moisture free, airy and ambient environment conditions to avoid fungal contamination.

1.1.4 Project Title: Quality assurance of medicinal plants.

Objective: Evaluation of quality parameters to ensure the supply of premium quality material.

Project Duration: 12 months (April 2021- March 2022)

The herbal medicines have become popular to combat COVID 19. They have also been used to improve overall health of livestock and human beings. ARF has worked towards establishing the quality standards of herbal raw materials to ensure the supply of premium quality material to various stakeholders.

Results: Total 163 samples of herbs such as - Tulsi, Kalmegh, Indrayan phal, Brahmi, Bhoomi Amla, Ashwagandha, Kaunch, Moringa, Shatwar, Long Pepper, Kutki, Neem, Salacia, Makoi, Apamarg, Giloy, Daru Haldi, Kapoor Kachari were analyzed as per API specification and for active ingredients using HPLC. 59% of the samples were found to be in compliance with the standard quality specifications, 41% of the samples were found not to comply with respect to parameters water soluble extractives, moisture, total ash.

1.1.5 Project Title: Analysis of raw material on quality parameters for cattle and poultry feed.

Objectives: To analyze the quality parameters of different raw materials used in finished formulations in cattle and poultry feed.

Project Duration: 12 months (April 2021- March 2022)

Animal feeds and their quality are important for overall health and production of livestock. Various raw materials were tested using the latest equipments i.e NIR.

Results: Out of 629 samples of raw materials such as Rice polish, MDOC, Soya DOC, GNE, Maize, DORB etc. 90% samples were found to comply with the BIS specifications for the parameters crude protein, crude fibre, fat, moisture, ash and acid insoluble ash contents. 10% of theses samples were found not to comply to parameter crude protein, moisture content and acid insoluble ash.

Quality assurance of medicinal plants

Analysis of feedstuffs using NIR

1.1.6 Project title: Evaluation of microbial population and heavy metals in soil samples collected from village Baroda Mor, Sonipat, Haryana"

Objectives:

1. To study the total microbial population.
2. To study the presence of heavy metals

Project Duration: 1 months (July 2021- August 2022)

Soil bacteria and fungi play pivotal roles in various biochemical cycles and are responsible for the recycling of organic compounds and also contribute to plant nutrition, plant health, soil structure and soil fertility (1). Organic carbon (OC) enters the soil through the decomposition of plant and animal residues, root exudates, living and dead microorganisms, and soil biota. It is the main source of energy for soil microorganisms (2). Soil contains many micro and macro flora and fauna as long as there is a carbon source for energy. The microorganism population also varies with the depth i.e., Bacteria 108- 109, Actinomycetes 107- 108, Fungi 105- 106, Algae 104- 105, Protozoa 103- 104 Nematodes 102- 103.

Soil may become contaminated by the accumulation of heavy metals like - lead (Pb), chromium (Cr), arsenic (As), zinc (Zn), cadmium (Cd), copper (Cu), mercury (Hg), and nickel (Ni) and metalloids through emissions from the rapidly expanding industrial areas, mine tailings, disposal of high metal wastes, leaded gasoline and paints, land application of fertilizers, animal manures, sewage sludge, pesticides, wastewater irrigation, coal combustion residues, spillage of petrochemicals, and atmospheric deposition which may pose risks and hazards to humans and the ecosystem.

A study was planned at ARF R&D Centre to evaluate the total microbial population and presence of heavy metal in soil samples containing different organic carbon content collected from village Baroda Mor, Sonipat, Haryana.

Microbiological analysis of soil samples

Result: The study led to the conclusion that the soil samples were rich in microbial population and also there was no heavy metal present in the soil. The bacterial population were in the range of 7.09X107 to 1.84X109 cfu/g whereas total fungal population were found to be in the rage of 4.73 X106 to 1.08X107 cfu/g. Soil samples had total microbial population in the range of 7.97 x 107 to 1.85 X 109 cfu/g.

1.1.7 Project Title: Development of commercially viable process for vegetable protein isolation.

Objectives: To isolate and validate the commercially viable process from various plant sources, as well as to develop healthcare product adding herbs/extracts for additional health benefits

Duration: 6 months (January 2022- June 2022)

Protein is a nutrient that has been gaining popularity among consumers, with demand for both plant and animal-based protein sources. The body need nutrients such as vitamins, minerals, proteins, fibre, and carbs on a daily basis to carry out various physiological processes, which can be supplied from plant, animal, or both sources. Consumer demand for plant-based protein-based goods is high and predicted to increase further over the coming decade. Plant proteins are becoming more popular due to the following factors: (a) potential health benefits associated with increased plant-based diet intake; (b) consumer concerns about the negative health effects of eating diets high in animal protein (e.g., increased saturated fat); (c) increased consumer recognition of the need to improve the environmental sustainability of food production; (d) ethical issues regarding animal treatment, etc.

Protein isolates

Result: Optimization of process for soya and groundnut resulted in purity and yield to 85.73%, 33.33% and 74%, 67.86% respectively. Further validation is needed to increase the purity and yield and make the process commercially viable.

1.1.8 Project Title: Preparation of biofertilizers-enriched compost along with extraction of high value phytochemicals utilizing medicinal herbs processing solid waste

Objective:

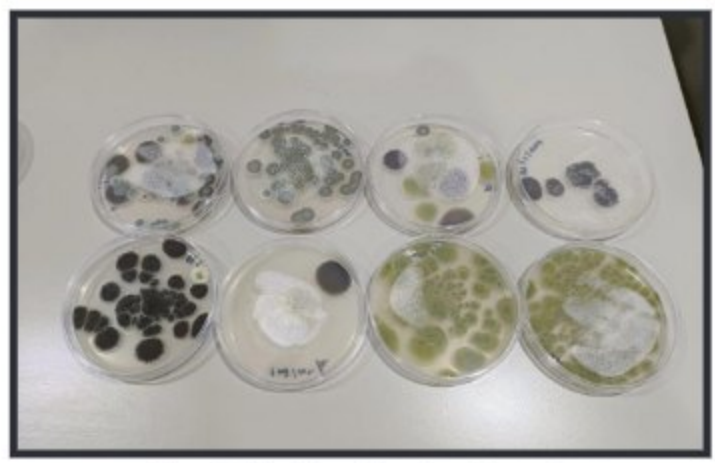
- To develop a microbial consortium for rapid composting of the medicinal herb processing waste.
- To develop a microbial consortium of phosphate solubilizing and nitrogen fixing bacteria to simultaneously grow during the composting process.
- To identify different high-value phytochemicals present in the medicinal herb processing waste and to develop methods for their recovery.

Project Duration: 1year (January 2022- January 2023)

Funding agency: DST

Collaborating Partner: GLA

The solid waste after processing herbal raw material of a variety of medicinal herbs are produced from different herbal industries. The herbal waste consists of cellulose, hemicellulose and lignin that are strongly intermeshed and chemically bonded by non-covalent forces and by covalent cross linkages. It has been generally characterized to contain 28 – 36% of alpha cellulose, 12 – 16% of lignin, 15 – 20% of ash and 9 – 14% of silica, which is recalcitrant for degradation. Degradation of the herbal waste are highly dependent on cellulolytic and non-cellulolytic organism. The heterogeneity of herbal waste makes it unique substrate for conversion into bio enriched compost. The aim of this study is to develop a technology to rapidly compost this medicinal herb processing solid waste and handover technology to local farmers so that they can take away the solid waste and produce valuable biofertilizer-enriched compost for their agricultural fields.



Fungal isolates from different vermicompost

2.0Research & Projects

2.1. Micro Enterprise development Program (MEDP)

Project Title – Micro Enterprise Development Program for the women of Self- help groups

Project Duration – 15 days (From 16th Nov to 2nd Dec 2021)

Supported by- NABARD

Location – Sirora Salempur Village, Loni Ghaziabad

Number of Beneficiaries – 30 Self-help group (SHG) women

Under Micro Enterprise Development Program (MEDP) Project of NABARD, Ayurvet Research Foundation provided 15 days training (From 16th Nov to 2nd Dec 2021) to 30 SHG Women in Organic Farming

process and organic certification. To provide training, experts from IARI, Krishi Vigyan Kendra, Organic Certification Companies and other subject experts provided farming training. After completion of training, these women were provided certificate and financial support.

Outcome:

Due to training, awareness about organic farming has increased in the village. Now these women have not only started adopting organic farming, but they have also registered themselves for organic certification process. Under the banner of organic farming, their input cost in agriculture is decreasing whereas their income is going to increase when their organic produce will be available for sale. Recently their story is covered by a national channel DD Kisan. The women of Sirora Salempur are united to build brand of their village as organic farming village.

A young girl from Sirora Salempur, Ms. Ekta Yadav (Mahila Sehbhagita Javik Samooh (SHG) says that "Majority of trained women have constructed vermicompost pits for preparing organic manure. We are excited to build brand of our produce as fully organic. We are thankful to NABARD and Ayurvet Research Foundation for showing us path of organic farming."

Lamp lightening ceremony before the commencement of the Training Session on Beneficial Microbes by Dr. Sangeeta Gupta

Media Coverage by DD Kisan

Certificate distribution at the end of the training programme

Successful completion of the training programme

2.2 Capacity building for Adoption of Technology (CAT)

Title- To enhance the capacity of progressive farmer with the knowledge of new technology and its implementation for hike in productivity

Project Duration – 3 days

Agency – NABARD

Number of Beneficiaries – 50 (2 batch of 25 each)

Technological upgradation and innovation have been the hall mark of Indian agriculture. With a view to widen the horizon of new agro-technology, it was felt that

farmers should be motivated to adopt new technology and should be exposed to innovative projects being implemented by various agencies in different parts of the country.

ARF in collaboration with NABARD has successfully conducted 2 CAT exposure visits of 25 farmers each from Ghaziabad district, UP.

Farmers visited the following institutes under CAT program:

1. Chaudhary Charan Singh Haryana Agriculture University (CCSHAU), Hisar, Haryana
2. Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana
3. Ayurvet Research Foundation, Chidana, Sonipat, Haryana
4. Division of Floriculture & Landscaping, School of Horticulture, ICAR- IARI, Pusa, New Delhi

CAT Exposure Visit, Ghaziabad - IARI PUSA, New Delhi

CAT Exposure Visit, Ghaziabad - LUVAS, Haryana

Outcome-

1. Farmers got exposure and training to adopt new technologies in agriculture and livestock sectors.
2. Farmers also got introduced to research and extension institutions in agriculture and livestock.
3. Farmers got solutions to their real time problems faced during agriculture and livestock practices.

2.3 Multilayer farming- NABARD

Project Title-Demonstration of Multilayer-Farming model among farmers of Muradnagar Block of Ghaziabad for increasing their income and optimum utilization of the decreasing agricultural land due to urbanization

Project Duration – 2 years

Supported by – NABARD

Location – Muradnagar Block, Ghaziabad

Number of beneficiaries- 10

Multilayer farming means growing and cultivating plants of different heights on the same field. It mostly includes cash crop. It includes combination of fruit and vegetable crops. It is generally practiced to facilitate utmost use of available solar energy.

Ayurvet Research Foundation with the support of NABARD is promoted by Multilayer Farming model and has set up 10 demonstration centres at villages of Muradnagar block of Ghaziabad. The same were selected after proper baseline survey at different villages of Muradnagar. We will train 60 farmers from different villages of Ghaziabad in the second year of the project.

Ms. Asmita Lal (IAS), Chief Development officer of Ghaziabad also visited the Multilayer Farming demonstration fields along with the senior officials from Ghaziabad administration. They appreciated the work and the idea behind the project. They mentioned that this project has the potential to wean the water intensive Sugarcane farming and can be practiced in the rapid urbanisation scenario where the land holdings are decreasing.

Outcome -

1. With the help of multilayer farming, the farmer's income can be increased substantially in this way.

2. Organic manure is saved, because the amount of fertilizer that is used in one crop is enough for 4 to 5 crops with that much organic manure.
3. Due to different layers (pavilion) in crop field, there is no outbreak of pest in the crop field and it prevents water loss through evaporation.
4. The cost seems to be 4 times less; with this the profits may increase from 6 to 8 times.
5. Through Multilayer system of cropping one can utilize vertical space more effectively hence,

Fig.-16. Demonstration field-Narender, Surana

Distribution of Soil testing Reports

Project Inaugration -17.12.2021

Visit of CDO – Ms. Asmita Lal (IAS)

Project Awareness Program

Baseline Survey

increasing the farm productivity.

2.4 DBT Biorationals project

Project Title – Evaluation and development of indigenous cow excreta based biorationals for enhanced plant and soil growth.

Project Duration – 3 years

Supported by – Department of Biotechnology

Location – Sonipat, Haryana

In the year 2022, Ayurvet Research Foundation has received a project from Department of Biotechnology under the SUTRA- PIC program. The program focuses on upliftment of dry cows of indigenous breed. Through this project we shall promote their status only by developing a product out of their excreta. Also, management of cow dung and urine is very important for environmental health. Use of chemicals is a major constraint in organic farming. Under utilisation of dry cows and negation of indigenous breeds. We wish to share their usefulness.

Objective –

1. Preparation of Bio- compost using Cow excreta
2. Enrichment of the prepared Bio-compost using known microbes.
3. Impact analysis of the bio-compost on to the soil health and pathogen

Outcome –

1. We shall develop a product out of cow excreta of indigenous cows
2. The product will be used to raise revenue which shall help the gaushalas to sustain
3. The vermicompost will get better price in market as it is comparatively enriched.

3.0 Animal Health

3.1 Calf bank project:

Project Title: Upliftment of reproductive and health status of indigenous cattle female calf (Sahiwal, Gir & Hariana).

Objective:

a. To promote the farmer for rearing of healthy, reproductively efficient and highly productive indigenous cattle.

b. To develop the farmers as dairy entrepreneur & improve the socio-economic status by skilling, training for calf raising in scientific manner

Project Duration: 3 Year (1st year)

Agency: NABARD

Location: 8 villages of Sonipat district

Under the NABARD supported project 25 beneficiaries have been selected with 25 calves of indigenous breeds, among them 15 are Sahiwal, 8 are Hariana & 2 from Gir breed. With the start of project all the farmers got the training for rearing, feeding, management & good form practices to achieve the desired body weight for the successful conception. The aim is to get female calf in the next generation by the use of sexed semen. Ayurvet Research Foundation is continuously assisting the farmers by regular monitoring of average daily gain (ADG) by monthly body weight examination, formulation of TMR based feed, vaccination, quarterly deworming & quarterly fecal test by veterinarian.

Beneficiary of calf bank Project with the calf during the visit

Outcome: All the calves are healthy & active, growing to desired body weight pattern 450-500gr/day i.e., ADG (Average daily gain).

3.2 Animal Health and Breed Improvement:

20 animals health camps have been actively organised at different villages of Sonipat district through the animal health centre by the efforts of Ayurvet Research foundation to provide the essential veterinary services.

Total **383** cases have been treated in which milk fever, ketosis, repeat breeding, Anestrus, dystocia, mastitis & intestinal worm load are very common diseases in field condition. Along with animal health camps ARF organised **10** farmer meetings to create awareness to get the maximum production with minimum input cost.

ARF promotes artificial insemination to upgrade the breed of the animals to improve the total production & productivity of individual. Total **1229** artificial insemination were performed with the use of semen of genetically superior bulls of cattle & buffalos. After the pregnancy diagnosis of the inseminated animals, **713** animals were found pregnant .i.e., **58%** conception rate.

Per rectal diagnosis through the palpation of foetus of suspected buffalo to ensure the pregnancy during the animal health camp

3.3 Waste to wealth management

Ayurvet research foundation is working on the motto of '5F' i.e., food, feed, fodder, fuel & fertilizer. ARF is using the technique & giving the training to the farmers that how we can utilize the animal waste as the fuel (bio gas) & fertilizer (vermicompost).

3.3.1 Bio gas: To fulfil the huge demand of fuels which is increasing day by day, ARF has been promoting the utilization of dung of dairy animal as a raw material for the bio gas synthesis. ARF has demonstrated the bio gas technology for awareness & adoption of the farmers which is totally eco-friendly technique, where anaerobic bacteria convert the waste excreta into biogas which can be utilized as fuel for cooking, lightening. ARF has been utilizing the bio gas for the Hydroponics fodder production & slurry of bio gas plant in the vermicompost.

3.3.2 Vermicomposting:

Vermicompost is one of the very good options to convert waste into wealth in rural India, where disposal of animal excreta is a big problem. Nowadays, it is the opportunity for the entrepreneurship in the vermicompost with the integration of dairy sector. ARF provided the training to the farmers for waste management which turned into highly fertile manure with richness of humus, nutrients & minerals that improves the soil health and water holding capacity.

Demonstration of vermicomposting unit with the farmers

4.0. Entrepreneurship

4.1 Title: Formation and promotion of farmer producer organizations

Duration: Three years (2nd year)

Agency: NABARD

Area covered: 30 villages of Sonipat & Panipat;

Under NABARD sponsored scheme, Ayurvet Research Foundation as POPI (Producer Organization Promoting Institution) has been promoting 6 FPOs on organic

Name of FPO	Address	Year of Registration	Scope of work
Pragatisheel Organic Producer Co. Ltd.	Didwari, Panipat	2019	Organic Rice, wheat and Vermicompost production
Young Milk Producer Co. Ltd.	Chhichrana, Panipat	2019	Vegetables, Mustard oil and Honey production
Gangana Organic Producer Co. Ltd.	Gangana, Sonipat	2019	Vegetables, wheat and paddy production (Organically); Input shop (Fertilizer, Pesticides and Seeds); Market committee license
Balaji Organic Producer Co. Ltd.	Kasandi, Sonipat	2019	Market committee license; Organic wheat & rice production; Custom Hiring Centre
Chhirsagar Milk Producer Co. Ltd.	Barota, Sonipat	2019	Milk
Sarva Vikas Producer Co. Ltd.	Putthi, Sonipat	2019	Vegetables Production; Custom Hiring Centre

farming, milk processing, vegetables, mustard oil in district Sonipat and Panipat.

Outcome of the project –

1. The Milk Collection and processing unit was inaugurated on 8th March 2022.

2. Organising awareness meetings to increase the membership

4.2 Project Title: Formation and promotion of farmer producer organizations

Duration: Three years (2nd year)

Agency: NABARD & NABCON

Area covered: 30 villages of Baghpat

Under NABARD sponsored scheme, Ayurvet Research Foundation as POPI (Producer Organization Promoting Institution) has been promoting 2 FPOs on vegetables, mustard oil in district Baghpat.

Name of FPO	Address	Year of Registration	Scope of work
Antral Dairy	Tyodhi Baghpat	2021	Dairy & Products
Pilana FPO	Pilana Baghpat (UP)	2021	Vegetable trading and Jaggery Production & Processing, Drip agency

Outcome of the project –

1. Business plan was formulated and shared
2. Stated their trading of vegetables

5.0 Rural Development

5.1- Capacity Building for Adoption of Technology (CAT)

Project Title: To enhance the capacity of progressive farmer with the knowledge of new technology and its implementation for hike in productivity.

Duration: Three days Agency: NABARD

Number of beneficiaries: 50 Farmers (2 batches of 25 farmers each)

Technological upgradation and innovation have been the hall mark of Indian agriculture. With a view to that, farmers should be motivated to adopt new technology & expose them to innovative projects being implemented by various agencies in di erent parts of the country. ARF in collaboration with NABARD successfully conducted 4 CAT exposure visits of 25 farmers in each visit from district Sonipat & Panipat, Haryana and district Baghpat, U.P.

Following institutes were visited by farmer groups under CAT visits:

a) National Dairy Research Institute (NDRI), Karnal, Haryana,

b) Chaudhary Charan Singh Haryana Agriculture University (CCSHAU), Hisar, Haryana,

c) Lala Lajpat Rai University of veterinary and Animal Sciences University (LUVAS), Hisar, Haryana and

d) Ayurvet Research Foundation, Sonipat Haryana.

Outcome

1. Farmers got exposures and trainings for adopted new technologies in agriculture and livestock sector.
2. Farmers also got introduced to research & extension institutions in agriculture and livestock.
3. Farmers resolved the real time problems faced by them

5.2 Organic Farming

Title: Demonstration of benefits of organic farming over conventional farming towards safe food, better soil and human health with farmers of Kisan Clubs and farmer Producer Organizations in Sonipat district.

Duration: Three years FY 2019 - 2022 (3rd year)

Agency: NABARD, Sonipat

Area covered: 20 Acres (in 4 villages of Sonipat)

Organic farming is a well-known alternative to traditional agriculture that avoids or significantly reduces the use of synthetically produced fertilizers, pesticides, and other chemicals in order to improve sustainable production in a pollution-free environment. ARF with support of NABARD successfully demonstrated the benefits of organic farming over conventional farming. The project was successfully executed in 20 acres of land in 4 villages of district Sonipat, Haryana.

Outcome:

1. Improvement in soil health by applying vermicompost and increase in organic matter.
2. Certified Organic food production.
3. By marketing organic produces farmers are benefited with more revenue.
4. Organic fields of farmers are certified by 'National Program for Organic Production' (NPOP) based on year of organic practice.
5. Increased awareness about using Neemastra and Jivaamrit among the farmers.
6. By getting exposures, farmers have resolved their real time problems faced during agriculture and livestock practices from subject matter.

5.3 Sanjeevani Project

Title: Sanjeevani

Duration: Five years (FY 2021-2022 4th year)

Agency: SATHI & Mobius Foundation

Area covered: 18 villages of Sonipat & Panipat district.

Ayurvet Research Foundation transplanted the plants with the support of Mobius Foundation in district Sonipat and Panipat villages. Under this program In FY 2021-22, SATHI has successfully completed Phase-IV of Sanjeevani wherein, we planted 6252 saplings and achieved survival rate of 77%. 18 villages of both the districts along with, Farmers Producer Organization (FPO), and Farmer Clubs member.

6.0 Bio Resource Development

There was high demand of the medicinal plants, owing to the increasing health concerns, especially covid.

Agricultural diversification through the medicinal plants can help in enhancing farms' productivity, profitability, and value addition besides leading a healthy lifestyle. Cultivation and production of the medicinal plants will ensure the purity, quality and the sustainable conservation of these plants and the supply of herbs required for the herbal industry.

About 8000 species of medicinal plants are in current use by local communities all over India. About 90% of the country's medicinal plants found in forest habitats.

With growing demand of medicinal plants by Indian herbal industry, there is continuous increase in pressure to forest and its biodiversity. In order to create a sustainable supply base of medicinal plants, Ayurvet Research Foundation continued its journey through structured programme for a variety of medicinal plants.

In FY 2021-22 project Ashwagandha, Tulsi, Kalmegh and Brahmi were under farming at various locations.

Objectives:

1. Identification of best geographical location for cultivation of targeted species of herbs for quality produce.
2. Skill development of farmers through on farm training during cultivation.
3. Develop and produce quality seeds & planting material for multiplication.
4. Develop a value chain and market linkage for farmers.

During cultivation, regular technical support, guidance, training along with good quality planting materials were provided.

Project wise progress

6.1 Kalmegh (*Andrographis paniculata*):

Location- Madhya Pradesh and West Bengal

Crop duration- 4 months (July 21 to October 21)

Planting material– Local variety (origin from Mansour, Madhya Pradesh)

Kalmegh field – Mansour, M.P Crop at harvesting Stage

Harvesting– At the initiation of flowering.

Madhya Pradesh:

Particulars	Plan	Actual	% Achieved
Area (Acres)	1	1	100
Yield (Kg/Acre)	1000	1000	100
Andrographolide (%)	2.5	2	80

West Bengal:

Particulars	Plan	Actual	% Achieved
Area (Acres)	1	1	100
Yield (Kg/Acre)	1000	1200	120
Andrographolide (%)	2.5	1.8	72

Kalmegh field – Midanapur, WB Crop at flowering Stage

Result:

1. **Yield:** - Dry aerial parts

(i) Madhya Pradesh: The production was 1000 kg dry aerial part/acre which is as per plan.

(ii) West Bengal: The production was 1200 kg dry aerial part/acre, which is 20% higher than the plan.

2. **Active constituents:** - Andrographolide %

(i) Madhya Pradesh–Active constituent (andrographolide%) was found to be 2%, which was less by 20% (against the plan).

(ii) West Bengal–Active constituent (andrographolide%) was found to be 1.8%, which was less by 28% (against the plan).

Analysis:

(i) The cultivation projects succeeded in producing good quality Kalmegh in Madhya Pradesh and West Bengal.

(ii) This project indicates that the suitable location for the cultivation of Kalmegh is Madhya Pradesh due to high active constituents followed by West Bengal.

(iii) Excessive rainfall may be a reason for reduction in active content.

6.2 Ashwagandha (*Withania somnifera*):

Location- Madhya Pradesh, Rajasthan & Karnataka

Crop duration- 7 to 8 Months (Aug.21 to March.22)

Planting material – Jahwar 20

Harvesting – After fruit ripening.

Karnataka:

Particulars	Plan	Actual	% Achieved
Area (Acres)	1	1	100
Yield (Kg/Acre)	300	325	108
Withanolide (%)	0.3	0.2	66

Ashwagandha field – Bagalkot, Karnataka Crop at Vegetative stage

Madhya Pradesh:

Ashwagandha field –Manasa M.P Crop at vegetative Stage

Particulars	Plan	Actual	% Achieved
Area (Acres)	1	1	100
Yield (Kg/Acre)	300	270	90
Withanolide (%)	0.3	0.25	83

Rajasthan:

Particulars	Plan	Actual	% Achieved
Area (Acres)	1	1	100
Yield (Kg/Acre)	250	230	92
Withanolide (%)	0.25	0.15	60

Ashwagandha field – Jhalawar Rajasthan Crops at Vegetative stage

Result:

1. Yield: - Dry roots

(i) Karnataka: The production was 325 Kg dry roots/acre, which is 8% higher than the plan.

(ii) Madhya Pradesh: The production was 270 Kg dry roots/acre, which is 10% less than the plan.

(iii) Rajasthan: The production was 230 Kg dry roots/acre, which is 8% less than the plan.

2. Active constituents: - Withanolide (%)

(i) Karnataka–Active constituent (withanolide %) was found to be 0.2% which is less by 34 % (against the plan).

(ii) Madhya Pradesh–Active constituent (withanolide %) was found to be 0.25% which less by 17 % (against the plan).

(iii) Rajasthan – Active constituent (withanolide %) was found to be 0.15% which was less by 40 % (against the plan).

Analysis:

(iv)The cultivation projects succeeded in producing good quality Ashwagandha roots in Karnataka, Madhya Pradesh and Rajasthan

(v) This project indicates that the suitable location for the cultivation of Ashwagandha is Madhya Pradesh due to high active constituents followed by Karnataka and Rajasthan.

(vi)Excessive rainfall may be a reason for reduction in active content.

6.3 Tulsi (*Ocimum sanctum*):

Location- Uttar Pradesh. & Bihar

Crop duration (2 Cuttings)-6-7 Months (July-21 to March-22)

Planting material–Tulsi local variety (origin from Hamidpur, U.P)

Harvesting – At the initiation of flowering.

Uttar Pradesh:

Particulars	Plan	Actual	% Achieved
Area (Acres)	1	1	100
Yield (Kg/Acre)	700	620	89
Ursolic acid (%)	0.3	0.32	106

Tulsi field – Sultanpur, U.P Crop at harvesting stage

Bihar:

Tulsi field – Madhapura, Bihar Crop at flowering Stage

Particulars	Plan	Actual	% Achieved
Area (Acres)	1	1	100
Yield (Kg/Acre)	800	750	94
Ursolic acid (%)	0.25	0.2	80

Result:

1. Yield: Dry leaves

(i) Uttar Pradesh: The production was 620 kg dry leaves/acre which was as per plan.

(ii) Bihar: The production was 750 kg dry leaves/acre, which was 6% higher than the plan.

2. Active constituents: Ursolic acid %

(i) Uttar Pradesh–Active constituent (ursolic acid %) was found to be 0.32%, which was more 6 % as per plan.

(ii) Bihar–Active constituent (ursolic acid %) was found to be 0.2%, which was less by 20 % (against the plan).

Analysis:

3. The cultivation projects succeeded in producing good quality Tulsi in Uttar Pradesh and Bihar

4. The project indicates that the suitable location for the cultivation of Tulsi is Uttar Pradesh followed by Bihar.

5. Excessive rainfall may be a reason for reduction in active contents.

6.4 Brahmi (*Bacopa monnieri*):

Location- West Bengal

Crop duration (4 Cuttings)-12 months (June 21 to June 22)

Planting material–Brahmi local verity (origin from Bakahali)

Brahmi field – Bakahali, WB Crop at vegetative Stage

Harvesting – At the initiation of flowering.

Particulars	Plan	Actual	% Achieved
Area (Acres)	1	1	100
Yield (Kg/Acre)	3000	3200	106
Bacoside %	0.25	2	80

Result & Analysis:

1. The cultivation projects succeeded in producing good quality Brahmi in West Bengal
2. Production of whole plants is 6 % above our target
3. Active content in the whole plants was less by 20% as compared to the plan
4. Need to explore the cause for decrease in bacoside %

Net house & demonstration garden:

A. Net house

A well-maintained NET House developed at the project site, Chidana with the fully automated sprinkler system. The main objective of this net house was to produce large-scale quality planting material for farmers, demonstration for other interested groups. It would also create awareness about conservation and common usage of medicinal plants among rural and urban population.

Total 11,700 seedlings of some important high value medicinal plants of 12 species, in the nursery and in the net house were cultivated at Chidana (Haryana)

List of medicinal plants:

S.No	Botanical name	Common name	No. of plants
1.	Bacopa moinneri	Brahmi	5000 saplings
2.	Tinospora cordifolia	Giloy	2000 Saplings
3.	Withania sominifera	Ashwagandha	100
4.	Ocimum sanctum	Tulsi	900
5.	Asparagus racemosus	Satawar	100
6.	Glycirrhiza glabera	Mulethi	100
7.	Andrographis paniculata	Kalmegh	100
8.	Centella aciatica	Mandookparni	2000
9.	Plumbago zeylanica	Chitraka	50
10.	Desmodium gangeticum	Shalparni	50
11.	Acorus calmus	Vacha	100
12.	Moringa oleifera	Sahajana	200
		Total	11700

B. Demonstration garden:

a. Around 500 sq. metre area has been covered by the

medicinal plants

b. Some important high value medicinal plant like Aloe-vera, Sahajan, Patharchhata, Chitrak etc. transplanted in this garden and factory area.

Inner view of Green House

Plan for 2022-23

1. Production of quality herbs and planting materials through herbal farming from different Agro-climatic zones of India by using Good Agricultural Practices for selected herbs.
2. Skill development of 2000 farmers.
3. Develop herbal garden at Chidana.
4. Increase the number of species from 4 to 17.
5. Develop a value chain and market linkage for farmers.

Medicinal Plant Garden

7.0. Human Resource Development

Ayurvet Research Foundation is a team of strong people who are passionate & committed towards sustainable development. Our employees bring an enormous amount of positive energy with them and have greater focus at work and never hesitate to go the extra mile.

We have always believed in leveraging people's passion to achieve organization objectives. As on March 31st, 2022, a strong team of 26 committed employees aligned to the laid objectives. They are indeed a critical asset to organization to deliver sustainable results year after year.

7.1. New Joinees

1	Shivam Soni	Sample Cell In charge	05/05/2021
2	Vijay	Field Assistant	05 July 2021
3	Surender Singh	Field Demonstrator	01 September 2021
4	Shivani Chauhan	Trainee-Communication	01 October 2021
5	Yogesh Kapoor	Sr. Manager-Coordination & Special Projects	16/11/2021
6	Arun Grover	Strategic Analyst to Managing Trustee	23/11/2021
7	Surbhi Sharma	Trainee- Microbiology	01 December 2021
8	Somveer	Executive- Wet Chemistry & Instrumentation	10/12/2021
9	Dr. Kaushlendra Narayan Dwivedi	Management Trainee - Animal Nutritionist	10 January 2022
10	Sachin	Field Assistant	10 January 2022

7.2. Human Capital Development

HR dept. o ered a wide range of training opportunities throughout the year in order to build on the professional competencies and conducted exclusive training sessions benefitting employees which were facilitated by various internal & external trainers.

7.3. Initiatives Enriching the Employee Experience & Engagement

1. Virtual Diwali Milan
2. Long Service Awards
3. International Women's Day Celebration
4. Holi & Birthdays Celebration

8.0 Other Initiatives

8.1 IAEC Meeting & Inspection

Successfully conducted the Institutional Animal Ethic Committee–Animal house facility inspection. The inspection was conducted in the presence of Dr. Shakir Ali–Main nominee CPCSEA and Dr Deepti Rai.

Institutional Animal Ethics Committee Meeting was held on 25th March, 2022. Following were the attendees-

Animal house facility inspection by IAEC members

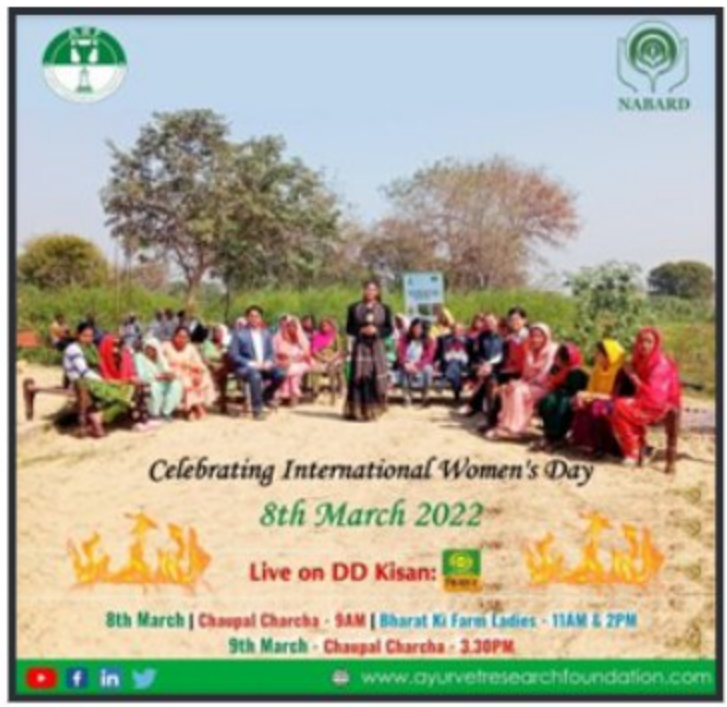
1. Prof. Shakir Ali – Main Nominee, CPCSEA
2. Dr. Deepti Rai – Member Secretary, IAEC (ARF)
3. Dr. Kaushlendra Narayan Dwivedi – Veterinarian, ARF
4. Dr. Hari Singh Lochab- Scientist from Di erent Domain

The members discussed the activities of ARF and the initiatives taken by ARF in order to strengthen animal health.

Animal house facility inspection by IAEC members

8.2 Farm Extension Activities - Coverage by DD Kisan

ARF have worked on serval projects for skilling of the farmers in Ghaziabad district. The key achievements and the benefits of the projects were shared by farmers and the same was appreciated by team DD kisan. The women beneficiaries trained under MEDP project on orgranic farming developed their own enterprise and shared their leanings from the program. The programmes were telecasted on 8th March & 11th May 2022 respectively.



Coverage by DD Kisan- 8th March, 2022

Coverage of beneficiaries of CAT Project-11th May,2022

8.3 – External Training

As a part of NABL protocol Dr. Anil Kanaujia and Ms. Samanwita Banerjee attended two trainings on ISO 17025:2017 and Measurement Uncertainty, respectively, in the years 2021-22, organized by BITS NIT.

8.4 – Awareness meeting / Baseline Survey – Multilayer Farming Project

In order to select the right beneficiaries for the project, we have conducted a baseline survey and have interviewed around 50 farmers from different villages of Ghaziabad. We have shared the benefits of the multilayer farming, the concept behind it and the related benefits to the farmers. The farmers adopting two crops in a field showed their interest in multilayer farming bearing 5-6 crops from same field.

Awareness meetings (Multilayer Farming)

8.5- ARF Webinar Series

A. Paddy Crop Health Assessment for better crop Yield and Productivity

Ayurvet Research Foundation conducted 5 webinars on Paddy crop. Starting from Nursery stage to harvesting and post-harvest management. It also helped the paddy farmers to get direct solutions from the experts during the crop season itself

Webinar-1 (Dated 24th Sept,2021)

Webinar-2 (Dated 27th Oct,2021)

Experts

S. No.	Name of the Expert	Domain
1	Padam Shri Dr. V. P. Singh	Considered as the father of Basmati Rice in India Former Head Division of Genetics, IARI
2.	Dr Ritesh Sharma	Principal Scientist, Basmati Export Research Foundation (BEDF), APEDA, Min of Commerce
3.	Dr T P Trivedi	Ex Additional Director General (ADG), ICAR
4.	Dr Rajveer Garg	Head, KVK, Panipat CCSHAU, Hisar
5	Progressive Paddy Farmers	From different parts of the Country

Recommendations of Experts

Nursery Stage

Seeds & Seed treatment:

It's the foundation step for the crop. Always procure Seeds from the trusted source like R & D centres of universities, recognized organization, Basmati Export Development Foundation etc.

Seed treatment is a crucial step which needs to be performed by every farmer. Same can be performed by various methods, few of commonly practiced methods are:

(a) Salt water treatment – Add 1 kg of salt in 10 litres of water to prepare a solution. Add seeds slowly to it. The lighter seeds will float on the surface and the same should be removed. Wash the remaining seeds twice before sowing.

(b) Make a solution of 20 gm carbendazim, 1 gram of streptocycline and water. Soak1 0 kg seeds in this solution for 20-24 hours.

(c) Keep the seeds in a moist gunny bag for around 24 hours in shade so as to allow sprouting of the seeds.

Raising Paddy Nursery

(a) Land preparation should be done through laser leveller before sowing paddy nursery.

(b) Add Nitrogen, Phosphorous, Potassium, Zinc and Iron supplements to the soil before raising nursery through seeds.

(c) Sow the nursery in evening time and keep 2-3 cm water level in the farm.

(d) Try and select the farm where no weed infestation is there.

Green Manuring

(a) Prior to transplanting of paddy nursery, farmers must adopt green manuring through Sesbania or Moong. The leguminous crops act as a nitrogen source to the fields.

(b) Sesbania should be sown in the farm 40-45 days prior to Paddy nursery transplantation.

(c) 1-2 days prior to transplanting the green manure should be mixed with the soil and puddling should be practiced

followed by land levelling.

(d) If rotavator is not available, green manuring, puddling can be practiced together. Hence, this will save a lot of time and money.

Nursery treatment

(a) Fill water in the field before uprooting the seedlings.
(b) Use 20-25 days old seedlings for transplanting.
(c) Treat the seedlings with solution of 5gm Trichoderma and 1 litre of water.

Transplanting of Paddy nursery in field

(a) Use paddy nursery which is 20-25 days old.
(b) Treat the seedlings before transplanting.
(c) Cut the tips of the seedling by 3-4 cm before transplanting.
(d) Maintain proper distance between the two seedlings so as to facilitate proper air and light circulation.
(e) Plant to plant and row to row distance should be at least 20 cm.

Weed Management

(a) Perform weeding after every 20-40 days.
(b) Try to keep the soil moist to avoid weed outbreak.

Pest Management

(a) After 15-20 days of transplanting perform planking.
(b) Install 2 pheromone traps per acre for inspection and 8 pheromones traps / acre for pest management.
(c) Install Trichogramma cards (1/acre) after 40 days of transplantation.
(d) Avoid stagnant water in the Paddy fields.
(e) Use chemicals/ pesticides /insecticides only after consultation from the scientists.
(f) Prepare Yellow sticky trap using grease and put it in field.
(g) Prepare neem seed juice along with water (5% in 10 litres of water per acre) and spray in the field.

Disease & Disease Management

1. Bakanae disease

(a) Seed treatment is essential
(b) Before uprooting the seedling, please fill the water in the field
(c) Please do not transplant diseased seedlings
(d) If any diseased seedling is seen, please up root the seedling
(e) Spray 2 g /litre Trichoderma/ acre
(f) Spray 5 g per litre pseudomonas
(g) Chemicals should be applied only after consulting the experts

2. Blast disease

(a) Use only healthy seeds
(b) Transplanting should be done before 15th July
(c) Nitrogen should not be used in excess
(d) Urea should be applied in a balanced quantity
(e) Please maintain moisture in the field continuously. It is important at the time of emergence of effective tillers and panicles

3. Sheath Blight

(a) Avoid using excess Urea.
(b) Avoid stagnant water in field.
(c) Use chemicals as and when required after consultation with scientists.

Harvesting

(a) Paddy crop should be harvested, when the grains become hard and contain about 20-22 percent moisture.
(b) Harvesting before maturity means a low milling recovery and also a higher proportion of immature seeds, high percentage of broken rice, poor grain quality and more chances of disease attack during storage of grain.
(c) Delay in harvesting results in grain shattering and cracking of rice in the husk and expose the crop to insects, rodents, birds and pests attack, as well as lodging.
(d) Harvesting during wet weather conditions should be avoided and done by adopting proper method.
(e) The water from paddy field should be drained about a week or 10 days before the expected harvesting, which helps in employing mechanical harvesters.
(f) Harvested material should be protected from rain and excessive dew by covering, avoid direct sun drying, which leads to an increase in breakage of the grains during milling.
(g) For combine harvesting, moisture percentage should be 18 per cent, or lower.

Threshing of Paddy

(a) Align all the panicles in one line to get proper threshing.
(b) If the threshing is delayed, keep the harvested paddy stalk bundles in a dry and shady place, which facilitates the air circulation and prevents excessive heating.
(c) Thresh the paddy in the field itself. Transport the grain in bags, which minimises the grain losses.
(d) Avoid too much post-harvest handling of paddy to minimise the grain losses. Pack the paddy in jute bags totally free from any contamination.
(e) Simple pedal operated threshers are also used to thresh the paddy in the field.

Cleaning of paddy

(a) The hand operated and power operated winnowing fans are commercially available. The paddy threshed by

manual beating or by pedal operated paddy thresher should be cleaned by using these fans.

Drying

(a) Most of paddy parboiled in the traditional mills is sun dried on a drying floor.
(b) Keep a check on rains as the same will increase the moisture level in the grains and may result in decay also.

Storage

(a) The land of the site should be protected from moisture, excessive heat, insects, rodents, and bad weather conditions.
(b) In godowns, sufficient space should be provided between two stacks for proper aeration.
(c) The structure should be clean, free from left-over grains, cracks, holes and crevices in the structure and should be fumigated before storage.
(d) Before storage, paddy/rice grains should be properly dried and cleaned to avoid quality deterioration.
(e) It is advisable to always use new and dry gunny bags. If old bags are to be used disinfect them by boiling in 1 percent Malathion solution for 3-4. Minutes and dry them properly.
(f) Separate storage facility should be maintained for new and old stock.
(g) Bags should be kept on wooden crates or bamboo mats along with a cover of polythene sheet to avoid absorption of moisture from the floor.
(h) Proper aeration should be provided in clean weather condition and avoided in rainy season.

Paddy Seed Production

In paddy, depending on the demand 3, 4 or 5 stages of seed multiplications are permitted under seed certification programme as follows.

(a) Breeder seed - foundation seed - certified seed
(b) Breeder seed - foundation seed stage 1- foundation seed stage 2 certified seed
(c) Breeder seed - foundation seed stage 1- foundation seed stage 2 - certified seed 1- certified seed

Land requirement

The land should be free of volunteer plants (crop of previous season occur in this season) and the same crop or the other varieties of the same crop should not have been grown for the previous season, if it is the same crop it (previous) should be the same variety that has been certified.

This selection is highly important for maintenance of genetic purity. They should have adequate irrigation and drainage facilities and the problem soils are not suitable for seed production.

Isolation

The crop should have 3 meters of isolation at all sides of the seed production plot for maintenance of genetic purity.

Selection of seed

Seed should be from an authenticated source (SAU, NSC, State Department).For production of certified seed, foundation seed (FS) should be used as source seed which should be purchased with bill and tag (white for FS seed)

Seed Upgradation Technique (Egg Floatation Technique)

Either before processing or after storage or due to improper processing, Paddy seeds may have some less vigorous seeds (immature, ill filled and insect damaged seeds) which may adversely affect the planting value of the seed. Removal of this seed will favour better establishment and higher production potential. These seed may be removed by adaptation of a simple water floatation technique based on specific gravity using salt water as a dissecting solution for separation of good quality seed from low quality seed, and egg is used as an indicator for specification of specific gravity measurement of 1.03 (120g of salt in 1000ml of water)

B. ARF Webinar for Consultative Discussion

Title–Draft Bill 2022–Integrated Plant Nutrition Management

Date: 24th February 2022

Time: 4PM – 5:30 PM

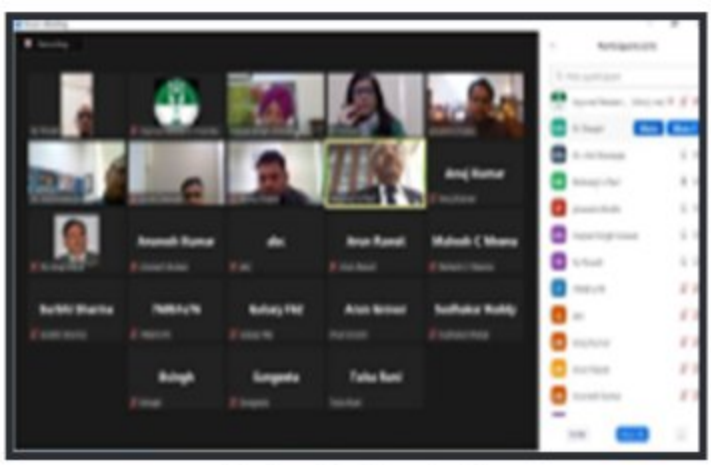
Ayurvet Research Foundation organized a webinar for consultative discussion on Draft "Integrated Plant Nutrition Management Bill, 2022". ARF invited representation of key stakeholders for this bill i.e., Scientists, Industry, Farmers, NGOs, Govt Officials and students shared their views and comments on the bill.

Key Participants:

1) Padam Shree Dr. V.P. Singh (Retd. Principal Scientist, IARI)
2) Padam Shree Dr. Bramha Singh (Retd Scientist, DRDO)
3) Mr. M.J. Saxena (Managing Trustee, Ayurvet Research Foundation)

4) Dr. Anup Kalra (Director, Ayurvet Ltd)
5) Dr. Sanjay Dwivedi (Scientist G, DRDO)
6) Dr. T.P. Trivedi (Ex ADG, ICAR)
7) Dr. Rajbir Garg (Agriculture Scientist, KVK, Panipat, Haryana)
8) Dr. M.C. Meena (Sr. Scientist, Soil Science, IARI)
9) Dr. Anuj Kumar (Scientist, Extension, DWBR)
10) Dr. A.K. Rawat (Former Adviser, DBT, Min. of Sci. & Tech.)
11) Dr. Tulsa Rani (Soil Scientist, KVK, Muradnagar, Ghaziabad)
12) Mr. H.S. Grewal (Progressive Farmer)
13) Mr. Sudhakar Reddy (Progressive Farmer)

Webinar-3 (Dated 24th Feb,2022)



Number of Participants- 50

Suggestions–

1. In 'Definition of Fertilizer' where explanation has been given about primary and secondary nutrients, "Organic Carbon" should also be included
2. Definition of words in the title of bill should be defined and elaborated.
3. Proposed title could be "The Integrated Soil and Plant Nutrition Management Bill, 2022"
4. In restriction for preparation of customized fertilizer, an individual farmer and farmer group, SHG/FPO can be exempted from the law.
5. In definition of Biofertilizer, compost of indigenous cow waste/dung should be incorporated.

8.6 Guest lectures

A. Climate Resilient Agriculture–Hydroponics as an Innovative opportunity

Ms. Abha Saxena – Sr. Executive – R&D has delivered a Guest lecture for the graduate & undergraduate students of Agriculture department, Parul University. The topic of the session was – Climate Resilient agriculture – Hydroponics as an opportunity. Total number of participants were 177. Prof. Chandrakant Sharma, Dean–Faculty of Agriculture felicitated the speaker and appreciated her efforts.

B. Urban Horticulture for Health & Happiness

Dr. Deepti Rai (PhD)- Principal Scientist, participated in the webinar series of BSHF – Urban Horticulture for Health and Happiness. The topic of the session was – Ayurvet Pro Green Hydroponics technology for growing sprouts & microgreens for health and happiness. Total number of participants were 107. It was organised on the occasion of Women's Day and was sponsored by Bayer.

C. Climate Resilient Agriculture- Hydroponics- an opportunity for safe food production

Ms. Abha Saxena – Sr. Executive – R&D delivered a guest lecture for the graduate & undergraduate students of Agriculture department, Sage University, Indore. The topic of the session was – Climate Resilient Agriculture – Hydroponics- An opportunity for safe food production. Total number of participants were 222.

8.7 Conferences / Seminars

1. **BioAg Asia**

   Organised By – Agriculture Today Group

   Theme- The value and need of organic Farming & the beneficial microbes related to it .

   Date- 21st March 2022

Participants from ARF-

1. Ms. Abha Saxena
2. Dr. Deepti Rai

9.0 Research Publications

1. Multilayer Farming: An Initiative towards Increasing Farmer's Income" International Journal of Veterinary Science and Agriculture Research Vol 4, Issue 1, Jan -Feb 2022
2. Hydroponic Green Fodder- Need of the hour "New Age Protected Cultivation "in Jan- June 2022 issue. p 39-41
3. "Ramie -Hare Chare aur Prakritik Fibre ka shaktishali shrot" Jan Samvad Jan 2022, p-7
4. Aeroponics technology application for raising nurseries of horticulture crops through Ayurvet Pro Green Hydroponic System Abstract repository of 9th Horticulture Congress; Indian Academy of Horticultural Sciences, Nov 2021, Deepti Rai, Abha Saxena, Anup Kalra and Mohan Ji Saxena
5. Hydroponics Fodder for better digestibility & reduced Methane emission in Livestock. Indian Journal of Animal health & nutrition. October 2021
6. Hydrogels: an innovative polymer for water conservation in wheat (Triticum aestivum). Applied Biological sciences. October 2021.
7. Hydroponics Green Fodder- An alternative and sustainable solution to Feed animals. Indian Dairyman. January 2021. Abha Saxena & Deepti Rai
8. Jungle rice – Potential Superfood. Agriculture Today. Volume 23, Issue 12 Jan 2021. Abha Saxena, Deepti Rai & Anup Kalra
9. Insect, Pest and disease Management in Rice with special reference to hydroponics nursery and Crop. September 2021. Agriculture Today. Abha Saxena, Deepti Rai & Anup Kalra.
10. Soil health status of selected villages of district Sonipat, Haryana and way forward. Volume 8, June 2021. International Journal of Advances in agriculture science and technology. Samanwita Banerjee, Anil Kanaujia, Abha Saxena and Deepti Rai
11. Evaluation of Comparative performance of hydroponically raised Wheat nurseries of varieties DBW-173, DBW-187& DBW -222. Science letters. Volume 2, July 2021. Abha Saxena, Deepti Rai, Krishan Gopal & Anup Kalra
12. Strategies to Reduce Greenhouse gas emissions from Livestock. October 2021. Indian Dairyman. Abha Saxena & Deepti Rai
13. Paddy nursery for health seedlings. Jan 2021. Indian Farming ICAR (Indian Council of Agriculture Research), New Delhi. Abha Saxena & Deepti Rai
14. Harvest and post-harvest management for ensuring quality of medicinal plants, Suruchi Malik, Kirti Sharma, Anil Kanaujia, International Journal of Advanced Research, 2021, 9(05), 602 - 605
15. Soil health status of select village of district Sonipat, Haryana and way forward, Anil Kanaujia, Samanwita Banerjee, Deepti Rai, Suruchi Malik, Kirti Sharma, Abha Saxena, Deepak Tyagi, International Journal of Advances in Agricultural Science and Technology, 2021, 8(6), 1-9.
16. Bio-sustainable practices for improving soil health index, Suruchi Malik, Anil Kanaujia, International Journal of Advances in Agricultural Science and Technology. 2021, 8(9),15- 22.

17. Potent medicinal plants for covid19: a review. Kirti Sharma, Anil Kanaujia, Anil Rathee, International Journal of Creative Research Thoughts, 2021, 9(9), 57-61.

18. Soil health check-up for better crop productivity, Suruchi Malik, Anil Kanaujia, Samanwita Banerjee, International Journal of Advanced Research, 2021, 9(12), 954 – 957

19. Preventive measures for residual aflatoxins in milk and dairy products, Kirti Sharma, Anil Kanaujia, International Journal of Veterinary Science and Agriculture Research, 2022, 4(1), 50- 54.

20. Benefits of organic farming on soil and crop health: A case study, Samanwita Banerjee, Jainendra Gupta, Anil Kanaujia, Suruchi Malik, Krishna Gopal and Deepak Lathwal, South Asian Journal of Agricultural Sciences 2022; 2(1): 16-21

21. Correlation of Organic Carbon Content of Soil on Paddy Productivity: A Case Study, Anil Kanaujia, Jainendra Gupta, Samanwita Banerjee, Suruchi Malik, International Journal of Advances in Agricultural Science & Technology, 2022, 9 (3), 43-46

22. Quality Monitoring of Water Being Fed to Livestock in Haryana - A Case Study, Samanwita Banerjee, Anil Kanaujia, Suruchi Malik, Surbhi Sharma, International Journal of Current Microbiology and Applied Sciences, 2022, 11(03),22-25

10.0 Media Coverage

मल्टीलेयर फॉर्मिंग से फसलों का कर सकते उत्पादन : अस्मिता लाल

गाजियाबाद ॥ दबंग ब्यूरो

मुरादनगर क्षेत्र अंतर्गत ग्राम पंचायत सुराना खत्री कलां एवं कुन्हैडा में संचालित एफपीओ मल्टीलेयर फार्मिंग मॉडल के तहत किसान अब एक से अधिक फसलों का उत्पादन कर सकते है। शुक्रवार को जिलाधिकारी राकेश कुमार सिंह के निर्देशन में मुख्य विकास अधिकारी अस्मिता लाल ने मल्टीफेयर फॉर्मिंग मॉडल का निरीक्षण करने के लिए पहुंची। सीडीओ ने निरीक्षण करते हुए कहा कि किसान अब मल्टी लेयर फॉर्मिंग से एक से अधिक फसलों का खेतों में उत्पादन कर सकते हैं।उन्होंने कहा कि गाजियाबाद का निरन्तर शहरीकरण होने तथा खेती की जमीन दिनों दिन कम होने के कारण मल्टीलेयर फॉर्मिंग तकनीक के जरिए किसान एक ही खेत में एक समय में एक से अधिक फसलों का उत्पादन कर सकते हैं। इस तकनीक से समय और धन की बचत होने के साथ किसानों को अधिक आमदनी पैदावार से हो सकेगी। एफपीओ के किसान अपनी

आय बढ़ाने के लिए मल्टीलेयर फॉर्मिंग मॉडल अपना रहे है। इसके परिणाम स्वरूप क्षेत्र के अन्य किसान भी इस पद्धति को अपनाने के लिए प्रेरित हो रहे है। निरीक्षण के दौरान सीडीओ ने किसानों से मल्टी लेयर फॉर्मिंग के विषय में विस्तार से वार्ता की। उन्होंने किसानों को जानकारी देते हुए बताया कि एफपीओ के किसान अपनी आय बढ़ाने के लिए मल्टीलेयर फॉर्मिंग मॉडल अपना रहें है। किसान एक ही भूमि 4 से 5 फसलें कई परतों में ले रहे हैं। पहली परत जमीन के अंदर अरबी/हल्दी दूसरी परत में खीरा या पत्ते वाली सब्जी या धनिया, तीसरी परत में बेल वाली सब्जी जैसे करेला, लौकी, तोरई मचान या खेत की मेढ़ पर चढ़ाकर ली जा रही हैं तथा चौथी परत में पपीता जैसी फल की खेती की जा रही है। मुख्य विकास अधिकारी ने बताया इस माडल के द्वारा गन्ना किसानों को गन्ने की खेती से बदलकर सब्जी की खेती करने के लिए भी प्रेरित किया जा रहा है।भविष्य में निश्चित रूप से सभी सदस्यों की आमदनी प्रधानमंत्री के कथनानुसार दोगुनी होगी होगी। इस तकनीकी की सराहना करते हुए सीडीओ ने डीडीएम नाबार्ड एवं कृषि विभाग के अधिकारियों को तत्काल निर्देश दिए किसानों को तकनीकि मदद करते हुए जो भी सुविधा या योजनाओं का लाभ दिया जाएगा।

Vikas Bhawan Ghaziabad
@ChiefGhaziabad

Multi Layer Farming by FPO at Muradnagar Block.
Turmeric,Cucumber and bitter/bottle gourd in layers on the same piece of land. Moving away from sugarcane,a water intensive crop.@AgriGoI @UpRuralDev @MoJSDoWRRDGR @JalShaktiAbhyan @upagriculture @CommissionerMe3 @PIBWater @ANI

Vikas Bhawan Ghaziabad and DM Ghaziabad

1:18 am · 8 Apr 2022 · Twitter for Android

13 Retweets 2 Quote Tweets 19 Likes

Media Coverage

upcmnews.com/ghaziabad-c

उत्तर प्रदेश

गाजियाबाद #CDO अस्मिता लाल ने एफ.पी.ओ./मल्टी लेयर फार्मिंग मॉडल का निरीक्षण किया

April 9, 2022 UPCM News

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जिलाधिकारी राकेश कुमार सिंह के निर्देशन में मुख्य विकास अधिकारी अस्मिता लाल के द्वारा जनपद गाजियाबाद की ग्राम पंचायत सुराना

कृषक उत्पादक संघ से जुड़े 25 प्रगतिशील किसान होंगे लाभांवित

-तीन दिवसीय क्षमता निर्माण कार्यक्रम कैट के लिए नाबार्ड के जिला प्रबंधक ने हरी झंडी दिखाकर रवाना किया।

बागपत। मंगलवार को जिले में किसानों के विकास और उत्थान हेतु कार्यरत संस्था आयुर्वेट रिसर्च फाउंडेशन सोनीपत ने नाबार्ड के सहयोग से आयोजित किए जा रहे।

प्रगतिशील किसानों के लिए कृषि की नई तकनीक अपनाने हेतु अपने तीन दिवसीय क्षमता निर्माण कार्यक्रम (कैट) भ्रमण की बागपत से शुरुआत की जिसके अंतर्गत करनाल में भारतीय गेहूं एवं जौ अनुसंधान संस्थान और हिसार में चौधरी चरण सिंह कृषि विश्वविद्यालय व लाला लाजपतराय पशुचिकित्सा एवं पशुविज्ञान विश्वविद्यालय में किसान जाकर जानकारी लेंगे। प्रगतिशील किसानों को नाबार्ड के जिला प्रबंधक सोमवीर पुरी ने हरी झंडी दिखाकर रवाना किया।

सोमवीर पुरी ने बताया कि इस भ्रमण का उद्देश प्रगतिशील किसानों को आधुनिक तकनीकों से परिचित कराना है ताकि वो उन्नत तरीके से पशुपालन व खेती कर अपनी आय बढ़ाएं। साथ ही उन्होंने संवाद कर किसान भाइयों को कार्यक्रम के महत्व के बारे में बताया। आयुर्वेट रिसर्च फाउंडेशन के अधिकारी जितेंद्र गुप्ता ने भी प्रगतिशील किसानों से संवाद किया और उनको अधिक से अधिक जानकारी लेकर आने के लिए प्रोत्साहित किया। मौके पर आयुर्वेट रिसर्च फाउंडेशन के अधिकारी कृष्ण गोपाल व अब्दुल और किसानों में बिजेंद्र सिंह, संजय त्यागी, योगेश कुमार, सुनील, मनीष शर्मा, धर्मेंद्र, अमन कुमार, महेश आदि लोग मौजूद रहे।

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पैनी नज़र तीखी ज़ुबां गहरा असर

अंतराल निश्चित ही रखेगा बागपत के स्वास्थ्य का ध्यान:डीएम राजकमल यादव

बड़ौत (बागपत)। भारत सरकार द्वारा ग्रामीण क्षेत्रों के किसानों की आय दोगुनी करने के उद्देश्य से विभिन्न कृषि उत्पादक संगठनों का निर्माण किया जा रहा है। इसी प्रकार ग्राम पंचायत दुगोढ़ी में रविवार को अंतरराष्ट्रीय महिला दिवस के अवसर पर नाबार्ड एवं आयुर्वेट रिसर्च फाउंडेशन के सहयोग से शुरू किए गए अंतराल डेयरी किसान उत्पादक संगठन का जिलाधिकारी बागपत श्री राजकमल यादव द्वारा उद्घाटन किया गया। ग्राम में जिलाधिकारी का स्वागत फूलों की माला और गुलदस्ते से कर एफपीओ के मौजूदा महिला डायरेक्टरों ने उनको शॉल, श्रीमद्भगवद्गीता और गाय का शुद्ध देसी घी देकर आभार प्रकट किया। डीएम ने अपने संबोधन में कहा कि अंतराल की विशेष बात यह है कि यह डेयरी संबंधी उत्पादों को महत्व दे रहा है। उन्होंने कहा कि महिलाओं द्वारा शुरू की गई अंतराल डेयरी अवश्य ही नए मुकाम हासिल कर जिले के लोगों को स्वस्थ एवं स्वच्छ उत्पाद मुहैया कराएगी। उन्होंने युवा डायरेक्टर साक्षी शर्मा को भी विशेष रूप से प्रोत्साहित किया। कार्यक्रम के आयोजन में आयुर्वेट रिसर्च फाउंडेशन के अधिकारी जैनेंद्र गुप्ता और कृष्ण गोपाल का विशेष सहयोग रहा। इस अवसर पर डीएम ने ग्राम प्रधान सचिन तोमर और शिक्षा रत्न अमन कुमार से भी मुलाकात की। इसके पश्चात अन्य अधिकारियों ने भी किसानों और महिलाओं से वार्ता की और उनको महिला दिवस और अंतराल की सफलता की शुभकामनाएं दी। मोहनकी सक्सेना, सोमवीर पुरी, अनूप कालरा आदि ने किसानों को नए एफपीओ को शुरू करने पर बधाई दी। कार्यक्रम में उपस्थित अन्य अधिकारियों में जिले के चीफ वेटरनरी ऑफिसर डॉ0 रमेश चंद, केवीके के प्रिंसिपल साइंटिस्ट डॉ0 संदीप चौधरी, लीड डिस्ट्रिक्ट मैनेजर राजेश पंत आदि ने किसानों को विभिन्न योजनाओं की जानकारी दी और साथ ही उनको नए एफपीओ की सफलता के लिए भी शुभकामनाएं दी। इस अवसर पर अंतराल के सीईओ मनीष शर्मा एवं डायरेक्टर में अंजू शर्मा, आरती, पूनम, अंजू देवी, साक्षी आदि लोगों के साथ सैकड़ों की संख्या में ग्रामीण मौजूद रहे।

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गाजियाबाद #CDO अस्मिता लाल ने एफ.पी.ओ./मल्टी लेयर फार्मिंग मॉडल का निरीक्षण किया

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11.0 Farmer Producer's Organisations (FPO) supported by ARF

11.1 Pragatisheel Organic Producer company Limited

Address of Reg Office of FPO with e-mail. ID	H. No.- 132, V.P.O.- Didwari, Panipat, (HR) 132145 pragatisheelorganicpclimited@gmail.com
Name & contact no. of contact person of FPO	Mr. Surender Kumar, Contact No.- 8816902826
Registration No./ CIN of FPO	U01100HR2019PTC077824
Date of Registration	1/14/2019
Total membership	260
Share capital of FPO	4,40,000
Nature of Business	1. Aggregation & marketing for organic farming. 2. Input supply (Pesticides, fertilizer, vermicompost & Seeds).
No. of BOD Members	9
Rating/Grading	B
E-NAM	Registered
Input License	Pesticides, Fertilizer, Seeds & Vegetable Seeds
Compliances under MCA	Complete
Custom Hiring Centre	N/A
CCDP	N/A
Market committee License	N/A
CC Limit	35 Lakhs
Authorized capital	25 Lakhs
Turn Over FY 2021-22	2443800
Products	Vermicompost, Rice, Wheat & Mustard oil

Visit to institute of Co-operative movement, Pragatisheel

Stall of FPO Product, Pragatisheel

11.2 Young Milk Producer Company Limited

Address of Reg Office of FPO with e-mail. ID	H. No.- 404, V.P.O.- Chhichhrana, Distt. - Panipat, (HR) 132107 youngmilkpclimited@gmail.com
Name & contact no. of contact person of FPO	Mr. Sumit, Contact No.- 9416680043
Registration No./ CIN of FPO	U01100HR2019PTC077897
Date of Registration	1/16/2019
Total membership	406
Share capital of FPO	5,06,000
Nature of Business	Aggregation & marketing for Mustard, Vegetables, Wheat and Paddy crop
No. of BOD Members	5
Rating/Grading	B
E-NAM	Registered
Input License	N/A
Compliances under MCA	Complete
Custom Hiring Centre	N/A
CCDP	N/A
Market committee License	N/A
CC Limit	N/A
Authorized capital	10 Lakhs
Turn Over FY 2021-22	2233625
Products	Mustard Oil, Vegetables, Honey & Wheat

Conference at Chitkara University

Interaction with the members of FPO

11.3 Chhirsagar Milk Producer company Limited

Address of Reg Office of FPO with e-mail. ID	H. No.- 668, V.P.O.- Barota, Sonepat (HR) 131301 chhirsagarmilkpclimited@gmail.com
Name & contact no. of contact person of FPO	Mr. Samunder Singh, Contact No.- 9254782263
Registration No./ CIN of FPO	U01100HR2019PTC078500
Date of Registration	2/13/2019
Total membership	500
Share capital of FPO	6,00,000
Nature of Business	1. Input supply (Pesticides, fertilizer, vermicompost & Seeds). 2. Aggregation Bajra, wheat & Paddy through market committee license. 3. Custom Hiring Centre.
No. of BOD Members	5
Rating/Grading	B
E-NAM	Registered
Input License	Pesticides, Fertilizer, Seeds & Vegetable Seeds
Compliances under MCA	Complete
Custom Hiring Centre	Yes
CCDP	N/A
Market committee License	No
CC Limit	N/A
Authorized capital	10 Lakhs
Turn Over FY 2021-22	3163422
Products	Ghee, Paneer, Khoya & Wheat

Conference during the training programme

3 days training programme at Karnal

11.4 Gangana Organic Producer company Limited

Address of Reg Office of FPO with e-mail. ID	H. No.- 329/6, V.P.O.- Gangana, Sonipat, (HR) 131302 ganganaorganicpclimited@gmail.com
Name & contact no. of contact person of FPO	Mr. Hardyal Singh, Contact No.- 9466291551
Registration No./ CIN of FPO	U01409HR2019PTC078652
Date of Registration	2/20/2019
Total membership	450
Share capital of FPO	5,50,000
Nature of Business	1. Organic farming under NABARD - Farm Sector grant fund project. 2. Input supply for Fertilizer & Pesticides (license applied). 3. Aggregation Bajra, wheat & Paddy through market committee license. 4. Custom Hiring Centre.
No. of BOD Members	5
Rating/Grading	B
E-NAM	Registered
Input License	Pesticides, Fertilizer, Seeds & Vegetable Seeds
Compliances under MCA	Complete
Custom Hiring Centre	Yes
CCDP	N/A
Market committee License	Yes
CC Limit	N/A
Authorized capital	10 Lakhs
Turn Over FY 2021-22	3344020
Products	Wheat, Rice, Jaggery & Vegetables

Interaction with the farmers at Gangana organic producers

Conference during the 3 days training programme

11.5 Balaji Organic Producer company Limited

Address of Reg Office of FPO with e-mail. ID	H. No.- 432, V.P.O.- Kahlpa, Kathura, Sonipat, (HR) 131301 balajiorganicpclimited@gmail.com
Name & contact no. of contact person of FPO	Mr. Sudhir Bangar, Contact: - 9810970830
Registration No./ CIN of FPO	U01100HR2019PTC078535
Date of Registration	2/14/2020
Total membership	334
Share capital of FPO	4,54,000
Nature of Business	1. Organic farming under NABARD - Farm Sector grant fund project. 2. Input supply for Fertilizer & Pesticides (license applied). 3. Custom hiring Centre allotted by Department of Agriculture with 80% subsidy. 4. Aggregation & Marketing through market committed license.
No. of BOD Members	6
Rating/Grading	B
E-NAM	Registered
Input License	Pesticides, Fertilizer, Seeds & Vegetable Seeds
Compliances under MCA	Complete
Custom Hiring Centre	Yes
CCDP	N/A
Market committee License	Yes
CC Limit	N/A
Authorized capital	10 Lakhs
Turn Over FY 2021-22	3280120
Products	Vermicompost, Wheat & Paddy

Training Programme for the farmers of FPO

Meeting and Interaction with the farmers of FPO

11.6 Sarva Vikas Krishak Samooh Producer Company Limited

Address of Reg Office of FPO with e-mail. ID	C/o Rajesh S/o - Jai Hind, V.P.O. - Puthi, District - Sonepat, Haryana 131301 sarva.vikasfpo2020@gmail.com
Name & contact no. of contact person of FPO	Mr. Vikas Nain, Contact no.: 9015991576
Registration No./ CIN of FPO	U01110HR2020PTC088092
Date of Registration	8/03/2020
Total membership	400
Share capital of FPO	50,00,000
Nature of Business	1. Vegetables- Tomato, Potato & Cucumber. 2. Custom Hiring Centre.
No. of BOD Members	5
Rating/Grading	B
E-NAM	Registered
Input License	N/A
Compliances under MCA	Complete
Custom Hiring Centre	Yes
CCDP	Yes, with 4 Cr. Cost
Market committee License	No
CC Limit	50 Lakhs
Authorized capital	50 Lakhs
Turn Over FY 2021-22	3856700
Products	Vegetables

Training Programme at FPO

Interaction with the concerned person

11.7 Milkmug Producer Company Limited

Address of Reg Office of FPO with e-mail. ID	C/o Ghasitu Singh, Vill- Bilaspur, Post- Dudhla, Distt-Saharanpur, Pin Code - 247341 Uttar Pradesh milkmugpcl@gmail.com
Name & contact no. of contact person of FPO	Mr. Krishan Pal Saini, Contact No. - 9548732528
Registration No./ CIN of FPO	U01100UP2021PTC148701
Date of Registration	7/31/2021
Total membership	375
Share capital of FPO	4,00,000
Nature of Business	Khoya & Desi Ghee, Tie-up with Amul in Raw Milk (Under Process)
No. of BOD Members	5
Rating/Grading	B
E-NAM	Registered
Input License	FSSAI
Compliances under MCA	Complete
Custom Hiring Centre	N/A
CCDP	N/A
Market committee License	No
CC Limit	N/A
Authorized capital	10 Lakhs
Turn Over FY 2021-22	N/A
Products	Ghee, Khoya and Paneer

Training programme for the farmers of FPO

Interaction with the farmers of FPO

11.8 Dudhshakti Producer company Limited

Address of Reg Office of FPO with e-mail. ID	Vill- Nayagaon, Block- Nakur, Distt. Saharanpur, Pin Code-247342 Uttar Pradesh dudhshaktipcl@gmail.com
Name & contact no. of contact person of FPO	Mr. Satyapal Singh, Contact No. 7078790720
Registration No./ CIN of FPO	U01100UP2021PTC151077
Date of Registration	8/25/2021
Total membership	332
Share capital of FPO	3,00,000
Nature of Business	Khoya & Desi Ghee, Tie-up with Amul in Raw Milk (Under Process)
No. of BOD Members	5
Rating/Grading	B
E-NAM	Registered
Input License	FSSAI
Compliances under MCA	Complete
Custom Hiring Centre	N/A
CCDP	N/A
Market committee License	No
CC Limit	N/A
Authorized capital	10 Lakhs
Turn Over FY 2021-22	N/A
Products	Ghee, Khoya and Paneer

Interaction with the members of FPO

11.9 Pilana Farmer Producer Company Limited

Address of Reg Office of FPO with e-mail. ID	C/o Saguwa Pilana Khas Baghpat Uttar Pradesh 250615 pilanafpo@gmail.com
Name & contact no. of contact person of FPO	Mr. Vinod Tyagi, Contact No.- 9719226090, Mr. Bijendra Tyagi Contact No.7500153370
Registration No./ CIN of FPO	U01100UP2021PTC149596
Date of Registration	26/07/2021
Total membership	320 (Male 306 & Female 14)
Share capital of FPO	Rs.6,65,000/-
Nature of Business	1.Jaggery and Vegetable processing 2.Sugarcane & Vegetable 3.Pesticide & Seed
No. of BOD Members	5 (4 Male & 1 Female)
Rating/Grading	N/A
E-NAM	Registered
Input License	FSSAI, GST Registration, Pesticide & Seed License
Compliances under MCA	Complete
Custom Hiring Centre	N/A
CCDP	N/A
Market committee License	N/A
CC Limit	N/A
Authorized capital	10 Lakhs
Turn Over	FY 2021-22 Rs.0.20 Lakh, FY 2022-23 Rs.30 Lakh (Provisional)
Products	Seed, Pesticide, Jaggery & Vegetable

1st AGM Meeting

Product (spices) of Pilana FPO

11.10 Antral Dairy Farmer Producer Company Limited

Address of Reg Office of FPO with e-mail. ID	2, VILLAGE TYODHI, BAGHPAT, Baghpat, Uttar Pradesh 250611 antraldfpo@gmail.com
Name & contact no. of contact person of FPO	Mr. Praveen Sharma, Contact No.- 9557048111
Registration No./ CIN of FPO	U01111UP2021PTC156928
Date of Registration	15/12/2021
Total membership	150 (60 Male & 80 Female)
Share capital of FPO	Rs. 3,50,000
Nature of Business	1.Processing of packaging of milk 2.Milk product such as, Curd, Paneer, Mawa, Ghee, and Butter 3.Sweets (Barfi Peda, Ghevar, Gulab Jamun, Chhaina and Baalushai)
No. of BOD Members	5
Rating/Grading	B
E-NAM	Registered
Input License	FSSAI & GST Registration
Compliances under MCA	Complete
Custom Hiring Centre	N/A
CCDP	N/A
Market committee License	N/A
CC Limit	N/A
Authorized capital	10 Lakhs
Turn Over	FY 2021-22 Rs.0.16 Lakh, FY 2022-23 Rs.25 Lakh (Provisional)
Products	Milk, Dairy Products and Sweets

Inauguration of processing unit

FPO product gift to CGM-NABARD

Financials

AYURVET RESEARCH FOUNDATION
4TH FLOOR, SAGAR PLAZA, DIST.CENTRE, LAXMI NAGAR, DELHI -110092

BALANCE SHEET AS AT 31st March, 2022

PARTICULARS	SCHEDULES		AS AT 31ST MARCH,2022 (Rs.)		AS AT 31ST MARCH,2021 (Rs.)
SOURCES OF FUNDS					
TRUST FUND			3,18,25,000		3,18,25,000
CORPUS FUND			2,00,00,000		1,00,00,000
GRANTS	A		13,50,163		-
GRANT AGAINST FIXED ASSETS			41,26,678		41,26,678
ACCUMULATED DEPRECIATION	B		2,48,14,532		2,18,60,883
TOTAL			**8,21,16,373**		**6,78,12,561**
APPLICATION OF FUNDS					
FIXED ASSETS	B		4,42,72,026		4,22,48,039
FIXED ASSETS AGAINST GRANT	BA		41,26,678		41,26,678
CURRENT ASSETS, LOANS AND ADVANCES :	C				
A) SUNDRY DEBTORS		5,01,980		11,100	
B) CASH & BANK BALANCES		32,09,633		21,23,152	
C) INVESTMENTS		2,15,00,000		1,19,00,000	
D) LOANS & ADVANCES		10,53,840		10,75,923	
		2,62,65,453		1,51,10,175	
Less: CURRENT LIABILITIES AND PROVISIONS	D	31,65,293	2,31,00,160	18,10,730	1,32,99,446
INCOME & EXPENDITURE A/C			1,06,17,509		81,38,398
TOTAL			**8,21,16,373**		**6,78,12,561**
NOTES TO ACCOUNTS	H				

FOR SANDY ASSOCIATES
CHARTERED ACCOUNTANTS
FRN - 007337N

FOR AND ON BEHALF OF THE BOARD

SANDEEP GUPTA
PROPRIETOR
M. NO - 086069

MOHANJI SAXENA
MANAGING TRUSTEE

PRADIP BURMAN
CHAIRMAN

Financials

AYURVET RESEARCH FOUNDATION
4TH FLOOR, SAGAR PLAZA, DIST.CENTRE, LAXMI NAGAR, DELHI -110092

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31st March, 2022

PARTICULARS	SCHEDULE	FOR THE YEAR 2021-22 (Rs.)	FOR THE YEAR 2020-21 (Rs.)
A) INCOME	E		
DONATIONS		2,00,00,000	2,03,79,201
INTEREST INCOME		12,03,875	6,65,537
GOVERNMENT GRANT UTILIZED		66,31,931	40,07,626
SALES		16,95,169	7,26,754
TRAINING FEE/OTHER INCOME		12,29,509	11,07,446
		3,07,60,484	2,68,86,564
B) EXPENDITURE			
EMPLOYEES COST	F	1,21,00,303	94,76,080
OTHER EXPENSES	G	1,82,06,944	1,89,18,640
DEPRECIATION	B	29,53,649	27,50,552
TOTAL NET EXPENDITURE		3,32,60,896	3,11,45,272
SURPLUS/DEFICIT FOR THE YEAR CARRIED DOWN		(25,00,412)	(42,58,708)
Prior Period Adjustments		(21,301)	-
		(24,79,111)	(42,58,708)
SURPLUS/DEFICIT BROUGHT FORWARD		(81,38,398)	(38,79,691)
BALANCE CARRIED OVER TO BALANCE SHEET		(1,06,17,509)	(81,38,398)

AS PER OUR REPORT OF EVEN DATED ATTACHED

FOR SANDY ASSOCIATES
CHARTERED ACCOUNTANTS
FRN - 007337N

SANDEEP GUPTA
PROPRIETOR
M. NO - 086069

MOHANJI SAXENA
MANAGING TRUSTEE

PRADIP BURMAN
CHAIRMAN

PLACE: GHAZIABAD
DATED: 25th May, 2022

Our Esteemed Collaboration

RAJUVAS — Rajasthan University of Veterinary and Animal Science
Bikaner, Rajasthan

DUVASU — U.P. Pt. Deen Dayal Upadhyaya Pashu Chikitsa Vigyan
Vishwavidyalya evem Go Anusandhan Sansthan, Mathura, U.P.

MAFSU — Maharashtra Animal & Fishery Sciences University
Nagpur, Maharashtra

NDVASU — Nanaji Deshmukh Veterinary and Animal Science University
Jabalpur, M.P.

LUVAS — Lala Lajpat Rai University of Veterinary
and Animal Sciences, Hisar, Haryana

NABARD — National Bank for Agriculture and Rural Development

GLA — Ganeshi Lal Aggarwal University, Mathura, U.P.

SKUAST-J — Sher-e-Kashmir University of Agricultural Sciences and
Technology, Jammu, J&K

AAU — Assam Agricultural University, Jorhat, Assam

NMPB — National Medicinal Plant Board

CAU — Central Agriculture University, Imphal, Manipur

SVPUAT — Sardar Vallabhbhai Patel University of Agriculture
& Technology, Meerut.

1 Health

One Health is “the collaborative efforts of multiple disciplines working locally, nationally, and globally to attain optimal health for People, Animals and our Environment” as defined by the one health Initiative Task force.

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